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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,851

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

04/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,851	Applicant(s) TAKAHASHI ET AL.	
	Examiner BURTON MULLINS	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-25 is/are pending in the application.
- 4a) Of the above claim(s) 17-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 17-25 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 17-25 are directed to a non-elected Species (ii).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 8, 10 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Burgbacher (US Patent Pub.2005/0082931). Burgbacher teaches a motor with a stator delta connection structure (three phases 70,72,74 in delta configuration, abstract, Fig.4), the motor comprising: a single coil wire (stator winding wire) 45 wound at least twice over through a sequence (i.e., single coil 45 wound over two poles per phase of three phases 70,72,74, Fig.4), said single coil wire through said sequence being without any cut (i.e., ‘continuously wound from first winding coil through to the last winding coil’, par.7), wherein said sequence is said single coil wire extended: 1) from a first feeding terminal A (at starting end 50 of wire 45; Fig.4) to a first coil winding unit 51 (par.18), said first coil winding unit to a second coil winding unit

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52, and said second coil winding unit 52 to a second feeding terminal C; 2) from said second feeding terminal C to a third coil winding unit 53, said third coil winding unit 53 to a fourth coil winding unit 54, and said fourth coil winding unit 54 to a third feeding terminal E; and 3) from said third feeding terminal E to a fifth coil winding unit 55, said fifth coil winding unit 55 to a sixth coil winding unit 56, and said sixth coil winding unit 56 to said first feeding terminal A (at end 66 of wire 45; Fig.4).

Regarding claim 10, the first through sixth coil winding units 51-56 each has a magnetic pole face at a front end (poles 31-36; Fig.1).

Regarding claim 15, a single coil wire 45 is wound around said first through sixth coil winding units 51-56 (wire 45 'continuously wound from first winding coil through to the last winding coil', par.7).

Regarding claim 16, Burgbacher teaches a method of making an electromagnetic motor adopting a delta connection structure, the method comprising: a) extending said single coil wire 45 from a first feeding terminal A to a first coil winding unit 51 (Fig.4), said single coil wire being wound around a portion of said first coil winding unit (pole 31); b) extending said single coil wire from said first coil winding unit 51 to a second coil winding unit 52, said single coil wire being wound around a portion of said second coil winding unit (pole 32); c) extending said single coil wire from said second coil winding unit 52 to a second feeding terminal C; d) extending said single coil wire from said second feeding terminal C to a third coil winding unit 53, said single coil wire being around a portion of said third coil winding unit (pole 33); e) extending said single coil wire from said third coil winding unit 53 to a fourth coil winding unit 54, said single coil wire being around a portion of said fourth coil winding unit (pole 34); f)

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extending said single coil wire from said fourth coil winding unit 54 to a third feeding terminal E; g) extending said single coil wire from said third feeding terminal E to a fifth coil winding unit 55, said single coil wire being around a portion of said fifth coil winding unit (pole 35); h) extending said single coil wire from said fifth coil winding unit 55 to a sixth coil winding unit 56, said single coil wire being around a portion of said sixth coil winding unit (pole 36); and i) extending said single coil wire from said sixth coil winding unit 36 to said first feeding terminal A, wherein said single coil wire is wound at least twice over through a sequence of the steps a) through i) (i.e., single coil 45 wound over two poles per phase for three phases 70,72,74 through steps (a) through (i)) , said single coil wire through said sequence being without any cut (wire 45 ‘continuously wound from first winding coil through to the last winding coil’, par.7).

Claim Rejections - 35 USC § 103

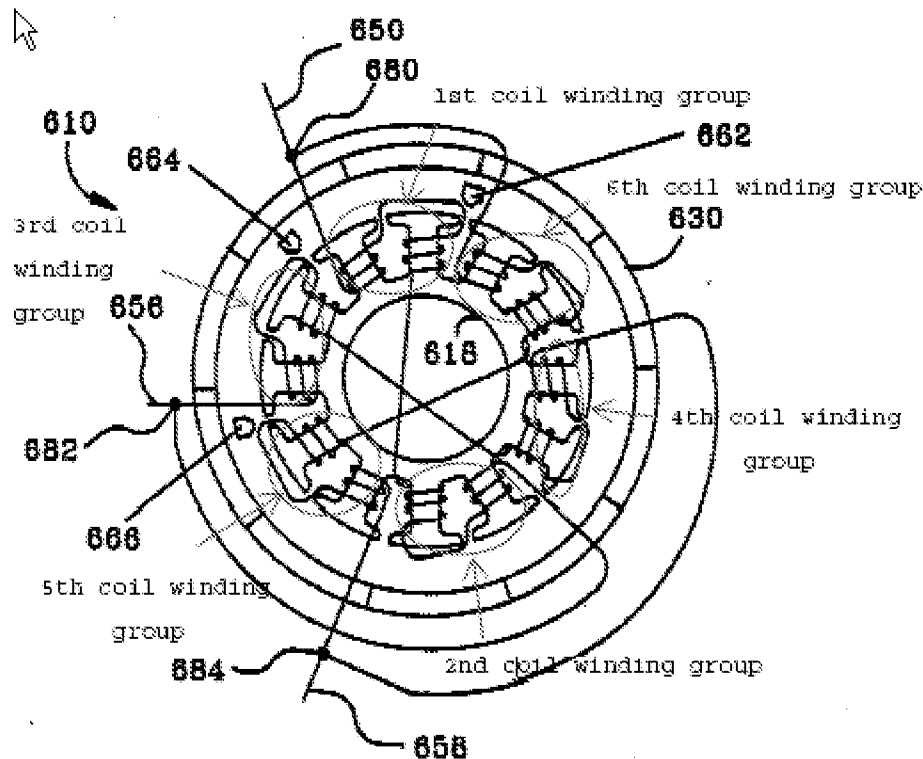
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burgbacher and Yoshida (US 5,173,628). Burgbacher does not teach that the single coil wire 45 is “hooked at said first, second, and third feeding terminal.”

Yoshida teaches a brushless motor including a stator coil wire 7 hooked at feeding terminals 8 (Fig.4) formed in a U-shape, to fix the wires to the terminals by welding, providing increased reliability and manufacturing automation (c.2:8-22; c.5:23-35, c.6:6-20).

It would have been obvious to modify Burgbacher and provide stator coil wire hooked at feeding terminals as in Yoshida to provide increased reliability and automation.

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6. Claims 8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kordik (US 5,164,622) and Burgbacher. Kordik teaches an electromagnetic motor 610 adopting a delta connection structure (abstract; Fig.6), the motor comprising: a coil wire wound at least twice over through a sequence (i.e., coil wound over two sets of poles per phase for each of three phases A/B/C), wherein said sequence is said single coil wire extended: 1) from a first feeding terminal 680 to a first coil winding unit (marked 1 in Fig.6 below), said first coil winding unit to a second coil winding unit (marked 2, Fig.6 below), and said second coil winding unit (2) to a second feeding terminal 682; 2) from said second feeding terminal 682 to a third coil winding unit (marked 3, Fig.6 below), said third coil winding unit (3) to a fourth coil winding unit (marked 4, Fig.6 below), and said fourth coil winding unit (4) to a third feeding terminal 684; and 3) from said third feeding terminal 684 to a fifth coil winding unit (marked 5, Fig.6 below), said fifth coil winding unit to a sixth coil winding unit (marked 6, Fig.6 below), and said sixth coil winding unit (6) to said first feeding terminal 680.

**FIG. 6**

Kordik differs in that there is no teaching of “a single coil wire through said sequence being without any cut”.

Burgbacher teaches a motor with a stator delta connection structure (three phases 70,72,74 in delta configuration, abstract, Fig.4) comprising a single coil wire 45 that is not cut (wire 45 ‘continuously wound from first winding coil through to the last winding coil’, par.7) so as to avoid interruptions during winding and enable automated manufacture (par.7).

It would have been obvious to modify Kordik and provide a delta winding sequence with a single, uncut wire wound continuously from a first winding coil through to the last winding coil as in Burgbacher to avoid interruptions during winding and enable automated manufacture.

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Regarding claim 10, in Kordik the first through sixth coil winding units (1)-(6) each has a magnetic pole face at a front end (i.e., stator pole faces, Fig.6).

Regarding claim 11, in Kordik a shaft 14 is disposed within a through hole 38 (Fig.1), said through hole 38 extending through a stator core (stack) 18; magnets 30 fixed to a yoke (rotor/shell) 12/24, said yoke being attached to said shaft (c.6:8-10).

Regarding claim 12, the first and second coil winding units (1) and (2) radially extend from said stator core, said first and second coil winding units being disposed on a diagonal (Fig.6).

Regarding claim 13, in Kordik, the third and fourth coil winding units (3) and (4) radially extend from said stator core, said third and fourth coil winding units being disposed on another diagonal (Fig.6).

Regarding claim 14, in Kordik, the fifth and sixth coil winding units (5) and (6) radially extend from said stator core, said fifth and sixth coil winding units being disposed on a different diagonal (Fig.6).

Regarding claim 15, a single coil wire 45 in Burgbacher is wound around said first through sixth coil winding units 51-56 (wire 45 ‘continuously wound from first winding coil through to the last winding coil’, par.7).

Regarding method claim 16, as with the apparatus claim 8 above, Kordik discloses the claimed method including first through sixth coil winding units around respective poles, but does not teach “a single coil wire through said sequence being without any cut”. Burgbacher teaches a method for assembling a stator delta connection structure (three phases 70,72,74 in delta configuration, abstract, Fig.4) which are connected by a single coil wire 45 that is not cut (wire

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45 'continuously wound from first winding coil through to the last winding coil', par.7) so as to avoid interruptions during winding and enable automated manufacture (par.7). It would have been obvious to modify Kordik and wind the delta winding sequence with a single, uncut wire wound continuously from a first winding coil through to the last winding coil as in Burgbacher to avoid interruptions during winding and enable automated manufacture.

Response to Arguments

7. Applicant's arguments with respect to claims 8-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BURTON MULLINS whose telephone number is (571)272-2029. The examiner can normally be reached on 9-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571)272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BURTON MULLINS/
Primary Examiner, Art Unit 2834